

WOODS

111753 LOADER MOUNTING KIT

Loaders:

1009

1012

1016

mounting to

John Deere Models:
4500, 4600, 4700

Includes:

Hose Kit

59732

**MANUAL
PART NUMBER**

59744

WOODS®

TO THE DEALER:

Assembly and proper installation of this product is the responsibility of the WOODS dealer. Read manual instructions and safety rules. Make sure all items on the Dealer's Pre-Delivery and Delivery Check Lists in the Operator's Manual are completed before releasing equipment to the owner.

TO THE OWNER:

Read this manual before operating your WOODS equipment. The information presented will prepare you to do a better and safer job. Keep this manual handy for ready reference. Require all operators to read this manual carefully and become acquainted with all the adjustment and operating procedures before attempting to operate. Replacement manuals can be obtained from your dealer or, in the United States and Canada, by calling 1-800-319-6637.

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Observe all safety information in this manual and safety decals on the equipment.

For service, your authorized WOODS dealer has trained mechanics, genuine WOODS service parts, and the necessary tools and equipment to handle all your needs.

Use only genuine WOODS service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the spaces provided:

Model: 111753 Loader Mounting Kit

Provide this information to your dealer to obtain correct repair parts.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe can cause damage to equipment. The terms **CAUTION**, **WARNING** and **DANGER** are used in conjunction with the Safety-Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety.



This Safety-Alert Symbol indicates a hazard and means
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

! DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

! WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.

! CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

IMPORTANT

Indicates that failure to observe can cause damage to equipment.

NOTE

Indicates helpful information.

WOODS
GANNON
ALLOWAY
GILL
GANNONBMP
WAIN ROY
CF
ALITEC

WOODS[®]

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, and proper training of personnel involved in the operation, transport, maintenance and storage of equipment.

It has been said "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

INSTALLATION

- During installation, the tractor engine should be off, the key removed and the brakes locked. Do not disconnect hydraulic lines until attachments are removed or lowered to the ground and system pressure is released by operating valve levers. Never operate any hydraulic cylinders during any phase of the installation process.
- This Loader Mounting Kit is to be used only for the loaders and tractors specified in the Loader Mount Installation section of this manual. Any other use or modification of this mounting kit may result in serious injury or death.
- Hydraulics must be connected as instructed in this manual. Do not substitute parts, modify, or connect in any other way.
- After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.

TRAINING

- Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals are available from dealer or, in the United States and Canada, call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.
- If you do not understand any part of this manual and need assistance, see your dealer.

■ Know your controls and how to stop engine and attachment quickly in an emergency.

■ Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.

■ Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. **CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**

■ Never allow children or untrained persons to operate equipment.

PREPARATION

- Check that all hardware is properly installed. Always tighten to torque chart specifications unless instructed otherwise in this manual.
- Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.
- After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not put into service until control lever and equipment movements are correct.
- Protective hose sleeves must cover all hydraulic hoses and be secured onto metal hose fittings. Replace hoses or sleeves if damaged or if protective sleeve cannot be properly positioned or secured.
- Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.

(Safety Rules continued on next page)

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



(Safety Rules continued from previous page)

- Do not connect a low-pressure hydraulic hose into a high-pressure system—it will burst the hose. Do not use a high-pressure hose in place of a low-pressure hose—it is possible to rupture the valve.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.
- Make sure attachment is properly secured, adjusted, and in good operating condition.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in “locked up” position at all times.
- Whenever 3-point implements are attached to tractor, always check full range of operation for mechanical or hydraulic hose interference.
- Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Make sure shields and guards are properly installed and in good condition. Replace if damaged.

OPERATION

- Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.
- Keep bystanders away from equipment.
- Do not operate equipment while under the influence of alcohol or drugs.
- Always comply with all state and local lighting and marking requirements.
- Never allow riders. Do not lift or carry anybody on the loader or in the bucket or attachments.
- Power unit must be equipped with ROPS or ROPS cab and seat belt. Keep seat belt securely fastened. Falling off power unit can result in death from being run over or crushed. Keep foldable ROPS systems in “locked up” position at all times.
- Always sit in power unit seat when operating controls or starting engine. Securely fasten seat belt, place transmission in neutral, engage brake, and ensure all other controls are disengaged before starting power unit engine.

■ Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.

■ Never work under a raised loader. Always lower loader to the ground with bucket or loader attachment in full roll-back position. Shut off tractor, set parking brake, and remove key. Operate valve levers to release any hydraulic pressure. If loader obstructs tractor maintenance, loader must be removed from tractor.

MAINTENANCE

■ Before dismounting power unit or performing any service or maintenance, follow these steps: disengage power to equipment, lower the 3-point hitch and all raised components to the ground, operate valve levers to release any hydraulic pressure, set parking brake, stop engine, remove key, and unfasten seat belt.

■ Never work under a raised loader. Always lower loader to the ground with bucket or loader attachment in full roll-back position. Shut off tractor, set parking brake, and remove key. Operate valve levers to release any hydraulic pressure. If loader obstructs tractor maintenance, loader must be removed from tractor.

■ Refer to loader manual and follow all maintenance safety rules and instructions.

■ Do not modify or alter or permit anyone else to modify or alter the equipment or any of its components in any way.

■ Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.

■ Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

■ Do not allow bystanders in the area when operating, attaching, removing, assembling, or servicing equipment.

■ Make sure attachment is properly secured, adjusted, and in good operating condition.

SAFETY RULES



ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



- Keep all persons away from operator control area while performing adjustments, service, or maintenance.
 - Tighten all bolts, nuts and screws to torque chart specifications. Check that all cotter pins are installed securely to ensure equipment is in a safe condition before putting unit into service.
 - Make sure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
 - Make sure shields and guards are properly installed and in good condition. Replace if damaged.
 - Do not disconnect hydraulic lines until all system pressure is relieved. Lower unit to ground, stop engine, and operate all hydraulic control levers.
-



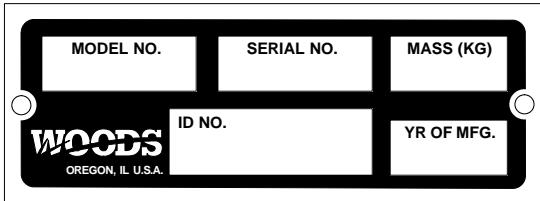
SAFETY & INSTRUCTIONAL DECALS



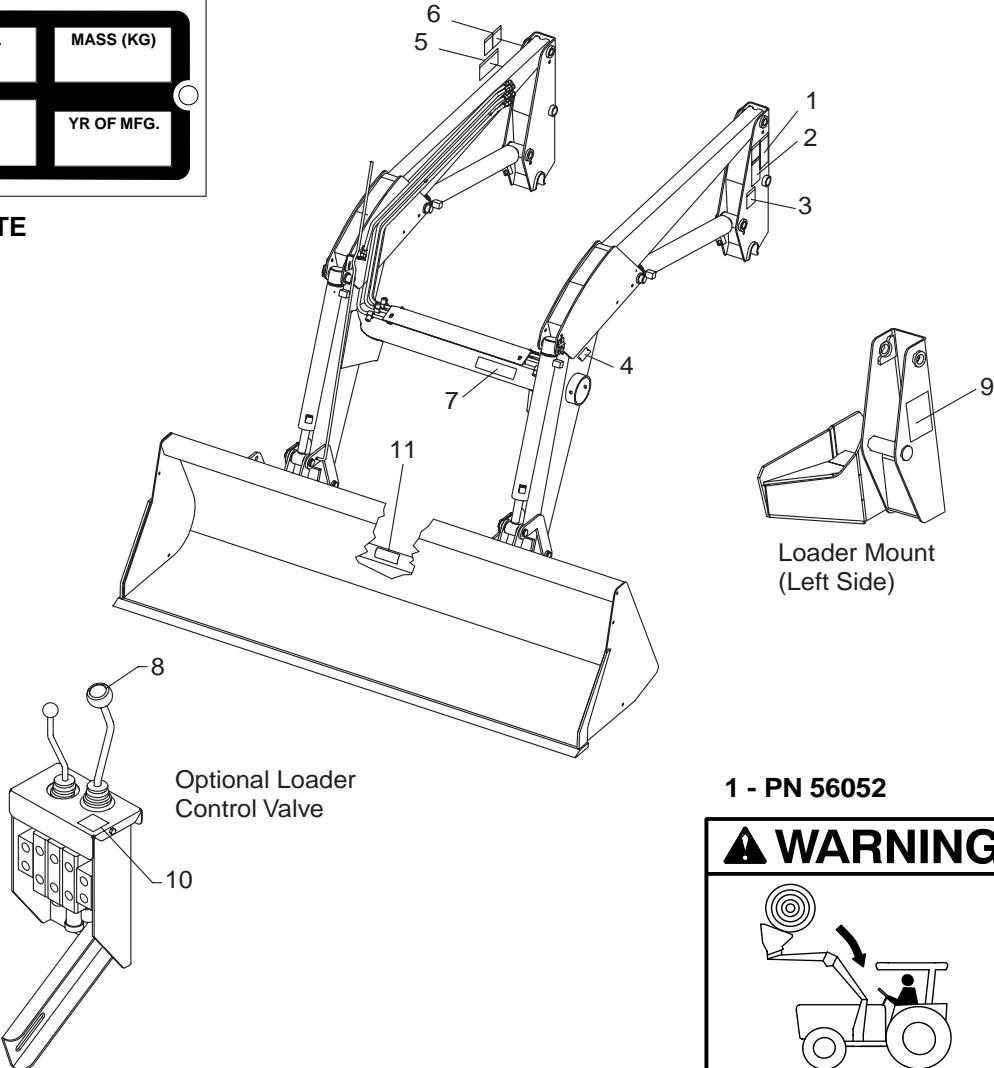
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



Replace Immediately If Damaged!



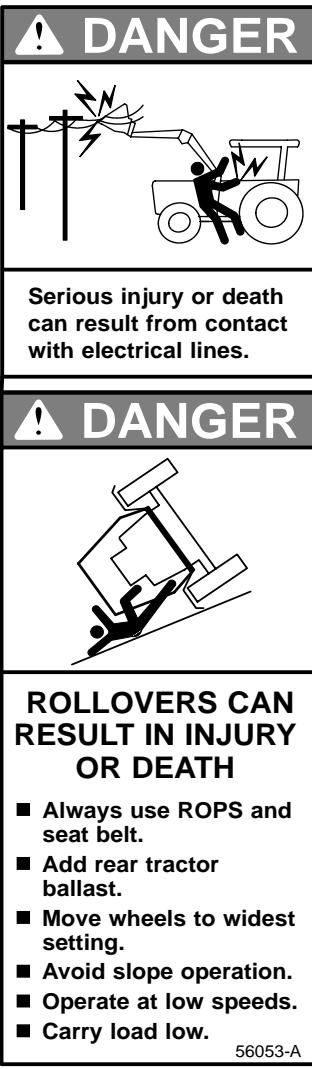
4 - SERIAL NUMBER PLATE



1 - PN 56052



2 - PN 56053



3 - PN 56051



(Safety Decals continued on next page)

SAFETY & INSTRUCTIONAL DECALS

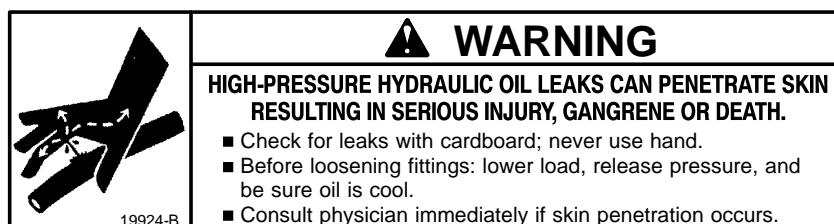
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!
Replace Immediately If Damaged!

(Safety Decals continued from previous page)

6 - PN 56050



5 - PN 19924



7 - PN 56055



11 - PN 45024



LOADER MOUNTING INSTRUCTIONS

Read Operator's Manual instructions before proceeding.

To Remove Loader

1. Park tractor on level surface with bucket flat on ground.
2. Dump bucket to take weight off mount pins and allow for stand installation. Set brake and shut off tractor.
3. Remove stands from crosstube and pin into brackets. (Pin location noted in mounting manual.)
4. Remove mount pins from loader upright.
5. Roll back bucket completely to raise uprights from mounts.
6. Shut off engine. Disconnect hydraulics. Back tractor away. Store mount pins in loader uprights.

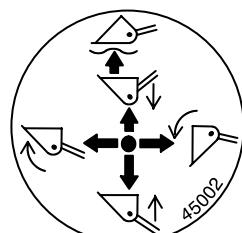
To Mount Loader

1. Remove mount pins from uprights.
2. Drive tractor into loader slowly.
3. Shut off tractor. Connect hydraulics.
4. Dump bucket to lower upright into mounts.
5. Continue dumping bucket until uprights settle into mounts, pins can be installed and stands can be removed. Set brake and shut off tractor.
6. Install mount pins and clips. Remove stands and pin into crosstube.

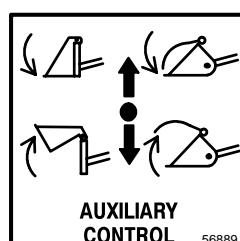
56059-A

9 - PN 56059

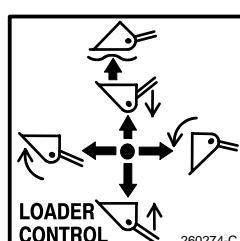
8 - PN 45002
(WHEN EQUIPPED)



10 - PN 56889
(WHEN EQUIPPED)



8 - PN 260274
(WHEN EQUIPPED)



LOADER MOUNT INSTALLATION

WARNING

- Only use #111753 Loader Mounting Kit for mounting Woods 1009/1012/1016 loaders on John Deere 4500, 4600, and 4700 tractors. Any other use or modification of this mounting kit may result in serious injury or death.
- Safety instructions are important! Read all attachment and power unit manuals; follow all safety rules and safety decal information. (Replacement manuals are available from dealer or, in the United States and Canada, call 1-800-319-6637.) Failure to follow instructions or safety rules can result in serious injury or death.

CAUTION

- If you do not understand any part of this manual and need assistance, see your dealer.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.

IMPORTANT

- This equipment must be assembled and installed on the customer's tractor by the Woods dealer. Dealer must thoroughly inspect equipment and complete each item on the PRE-DELIVERL CHECK LIST, DELIVERY CHECK LIST, and WARRANTY REGISTRATION before equipment is released to the costumer

TRACTOR PREPARATION

For installing this mounting kit, references to right, left, forward, and rearward directions are determined from the operator's position in the tractor seat.

IMPORTANT

- Clean threaded holes in the tractor chassis thoroughly using a tap of the proper size. Paint, rust, or debris in the threads may not permit cap screws to be installed and tightened correctly.

1. Set parking brake and shut off engine during installation.
2. Remove front end weights if so equipped.
3. The tractor must be equipped with single multi-function control lever (joystick) and hydraulic couplers, available through John Deere.
4. Larger tires may require steering stop adjustment. Tires must clear loader and loader mounts at full oscillation and full turn. See your tractor operator's manual for instructions on steering stop adjustment.

LOADER MOUNT INSTALLATION Cont'd

Install Loader Mounts

1. Remove two cap screws and spacers securing quick coupler bracket to right side of tractor housing as shown in Figure 1.

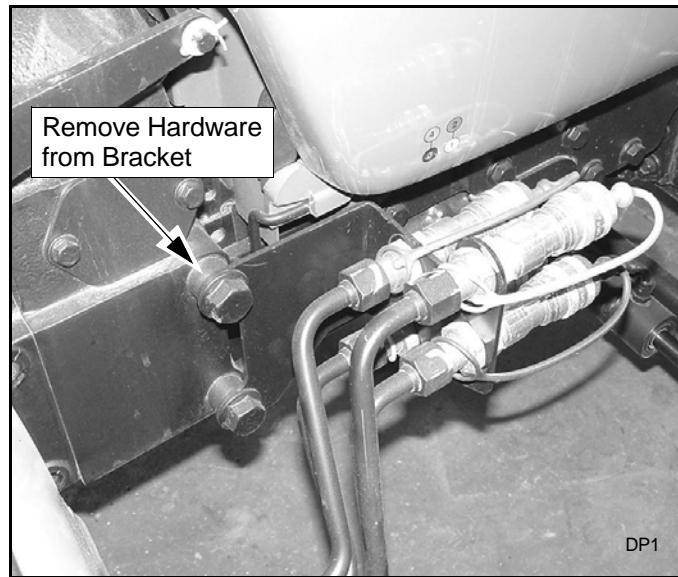


Figure 1 Remove Hardware From Quick Coupler Bracket

2. Attach right rear mount to tractor housing using four cap screws (20), hardened flat washers (14), and 1/2 spacer washers (19).
3. Place quick coupler bracket between 1/2 inch spacer washer and right rear mount as shown in Figure 2.
4. Install left rear mount to tractor housing using four cap screws (20), hardened flat washers (14), and 1/2 spacer washers (19).

1. 59695 Right rear mount
14. 58337 5/8 Hardened flat washer
19. 58335 .656 x 1.50 x .5 Washer
20. 58334 M16 x 2.0P x 60mm Cap screw

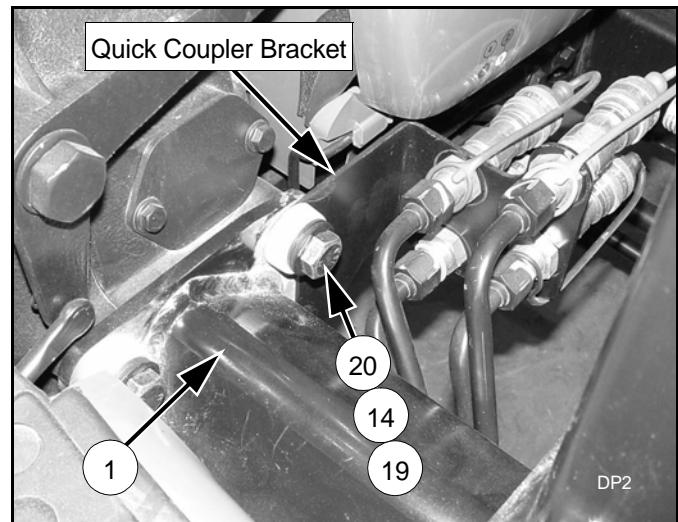


Figure 2 Right Rear Mount and Quick Coupler Bracket Installed

LOADER MOUNT INSTALLATION Cont'd

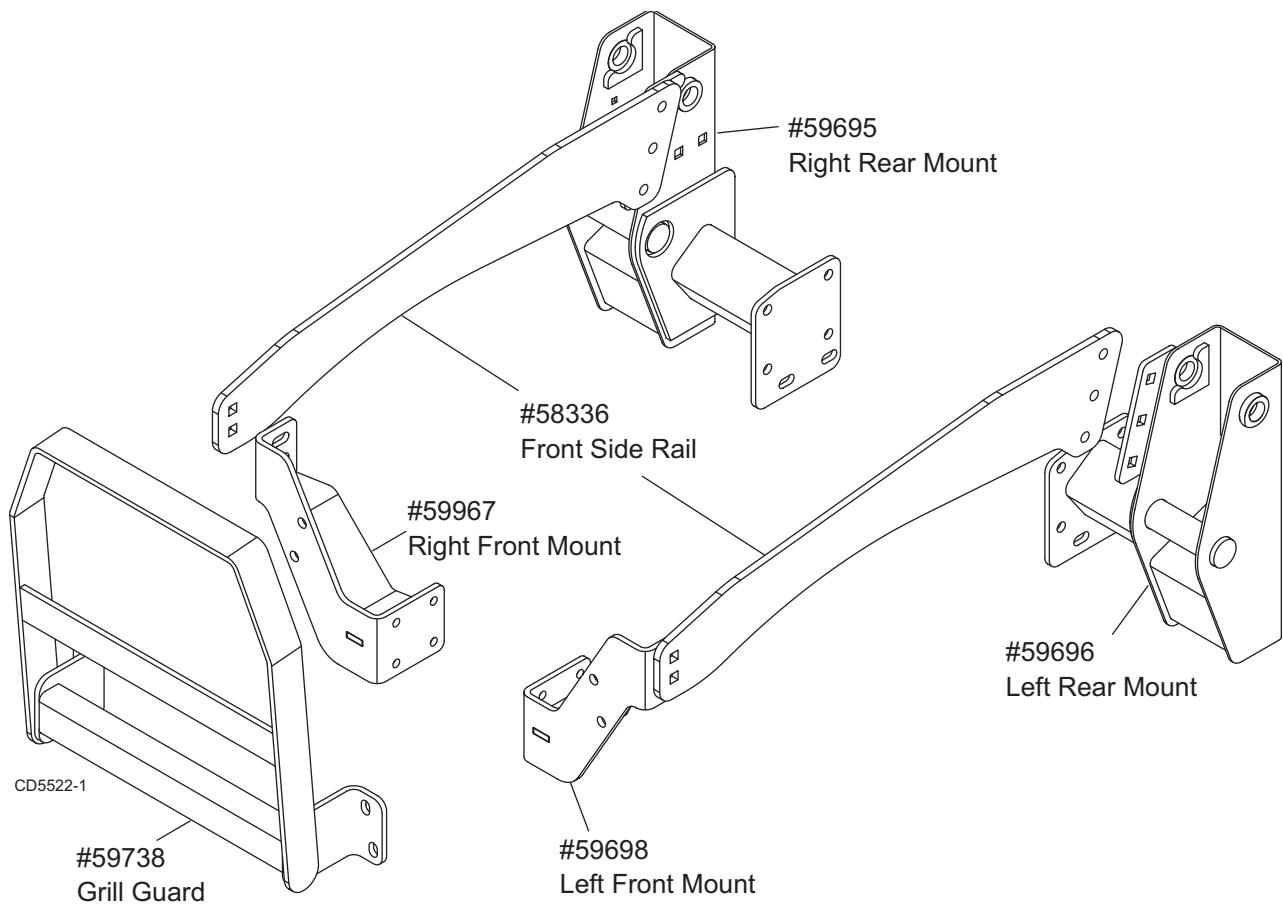


Figure 3 #111753 Loader Mounting Kit

Install Front Mounts

1. Install right front mount (4) to front of tractor using four cap screws (13), flat washers (11), and hex nuts (12).
2. Position cap screw on the outside of mount as shown in Figure 4 with flat washers and hex nuts on the inside of tractor frame.
3. Repeat steps 1 and 2 for installing left mount (5).
4. Do not tighten at this time.
 4. 59697 Right front mount
 5. 59698 Left front mount
 11. 57816 1/2 Hardened flat washer
 12. 1093 1/2 NC Hex nut
 13. 24586 1/2 NC x 1-3/4 Cap screw GR5

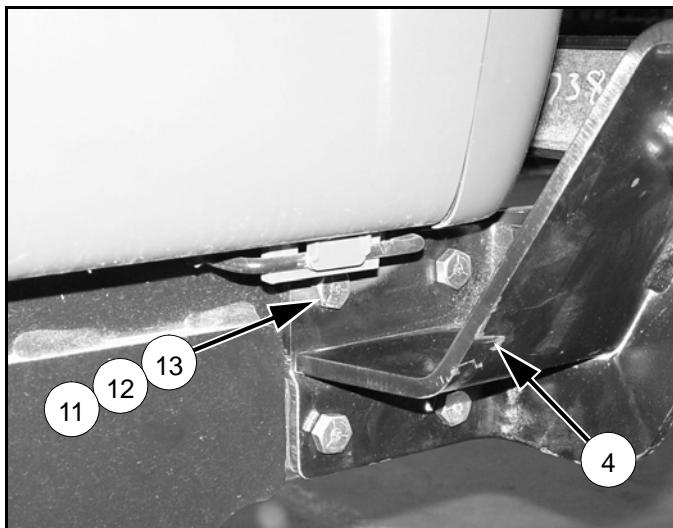


Figure 4 Right Front Mount Installed

LOADER MOUNT INSTALLATION Cont'd

Install Side Rails

Refer to Figure 5 and Figure 6

1. Attach front end of left side rail (3) to outside of front mounts (5).
2. Secure with two carriage bolts (17), flat washers (14), and hex nuts (16).
3. Attach side rails to the inside of left rear mount (2) using three carriage bolts (17), flat washers (14), and hex nuts (16).
4. Repeat steps for installation of side rail on right side of tractor.
5. Do not tighten hardware at this time.

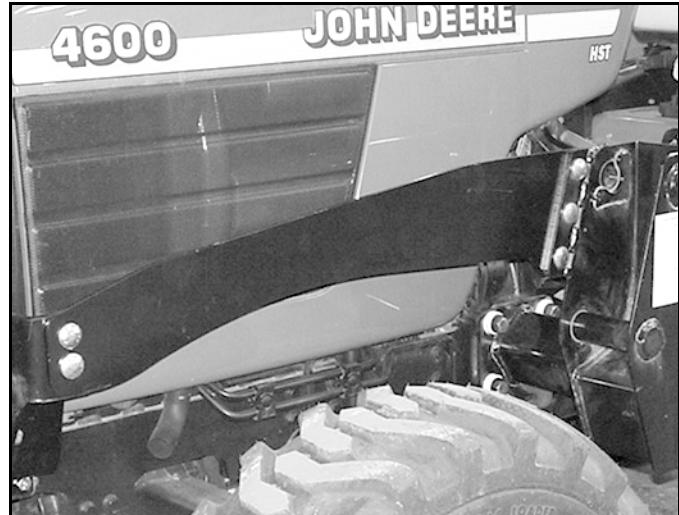


Figure 5 Left Side Rail Installed

2. 59696 Left rear mount
3. 58336 Side rail
5. 59698 Left front mount
14. 58337 5/8 Hardened flat washer
16. 230 5/8 Hex nut
17. 2855 5/8 NC x 2 Carriage bolt

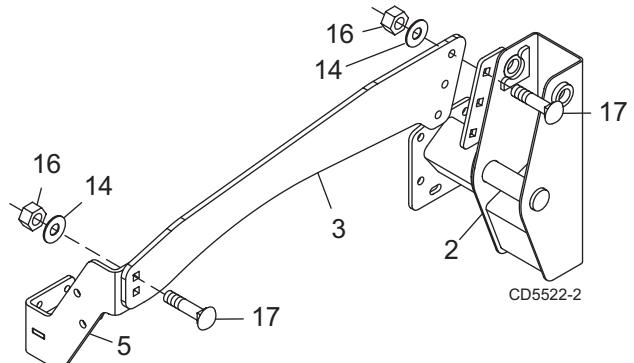


Figure 6 Left Side Rail Installation

LOADER MOUNT INSTALLATION Cont'd

Install Grill Guard Kit

Attach grill guard (6) to right and left front mounts using four cap screws (18), eight hardened flat washers (15), and hex nuts (16).

- 6. 59738 Grill Guard
- 15. 57817 5/8 Hardened flat washer
- 16. 230 5/8 NC Hex nut
- 18. 4548 5/8 NC x 1-3/4 Cap screw GR5

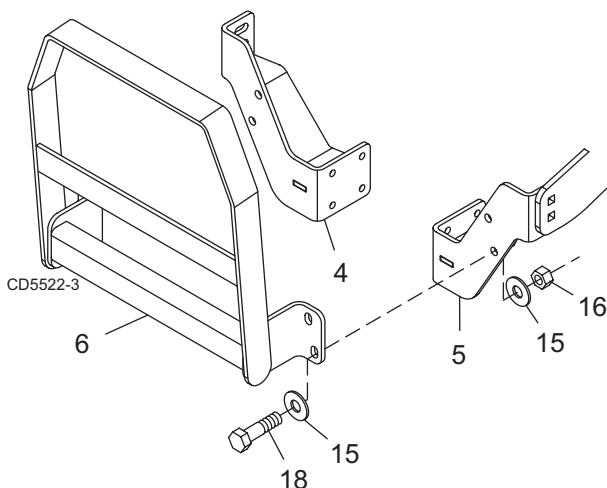


Figure 7 Grill Guard Installed

Torque Hardware

Torque all mounting hardware to specifications given below.

TORQUE SPECIFICATIONS			
Cap Screw	Qty	Wrench Size	Required Torque
1/2 NC x 1-3/4 GR5	8	3/4	85 lbs.-ft. (115 N-m)
5/8 NC x 2 Carriage Bolt GR5	10	15/16	170 lbs.-ft. (230 N-m)
5/8 NC x 1-3/4 GR5	4	15/16	170 lbs.-ft. (230 N-m)
M16 x 2.0P x 60mm CL 10.9	8	24mm	173 lbs.-ft. (234 N-m)

CONTROL VALVE & HOSE KIT INSTALLATION



WARNING

- Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.
- Make sure that all operating and service personnel know that if hydraulic fluid penetrates skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. **CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS SKIN OR EYES. DO NOT DELAY.**
- Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. When connecting equipment or hoses or performing any hydraulic maintenance, purge any air in hydraulic system by operating all hydraulic functions several times. Do this before putting into service or allowing anyone to approach the equipment.



WARNING

- Make sure all hydraulic hoses, fittings, and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.
- Protective hose sleeves must cover all hydraulic hoses and be secured onto metal hose fittings. Replace hoses or sleeves if damaged or if protective sleeve cannot be properly positioned or secured.

IMPORTANT

- Hydraulic valves must be connected to the tractor hydraulic system as shown in this loader mounting kit manual.
- If hydraulic lines are not connected as shown in the mounting kit manual, the loader control valve may be damaged. A blocked outlet (Return) or improper hose connection will cause pressurized oil to enter the return circuit and damage the valve.

COMPLETION OF THIS INSTALLATION REQUIRES CONNECTION TO THE LOADER, ASSEMBLED ACCORDING TO INSTRUCTIONS IN MANUAL #56472.

THE FOLLOWING INSTRUCTIONS ARE FOR OPERATING THE LOADER USING ONE VALVE OPTION:

1

#59732 Hose Kit

(For use with John Deere Hydraulic Control Valve).....Page 12

1

#59732 Hose Kit (For use with tractor remote)

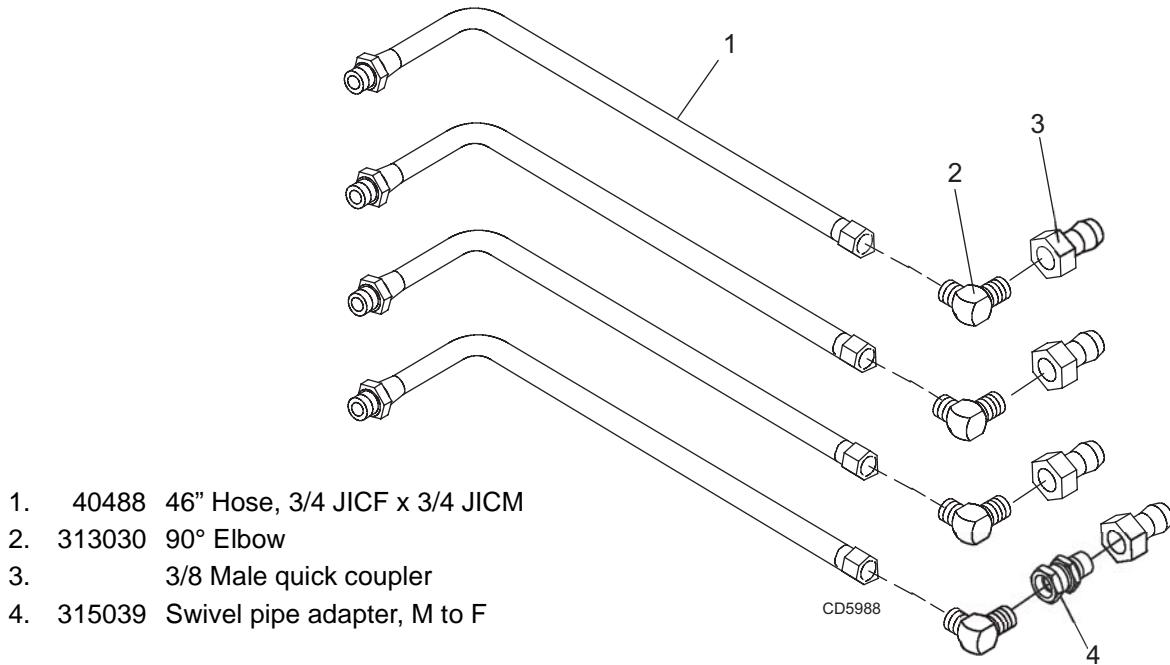
Install Hose Kit

These set-up instructions are for operating the loader using the tractor hydraulic remote control lever. To use this hydraulic connection the tractor must be equipped with multi-function hydraulic lever and four tractor hydraulic couplers as shown in Figure 8. Hose kit #59732 must be used to complete the hydraulic connection.

Hydraulic couplers for connection to tractor are NOT INCLUDED with hose kit, but are available from your John Deere dealer.



Figure 8 Tractor Hydraulic Couplers



1. 40488 46" Hose, 3/4 JICF x 3/4 JICM
2. 313030 90° Elbow
3. 3/8 Male quick coupler
4. 315039 Swivel pipe adapter, M to F

Figure 9 59732 Hose Kit

1 #59732 Hose Kit Cont'd

Assemble Hoses

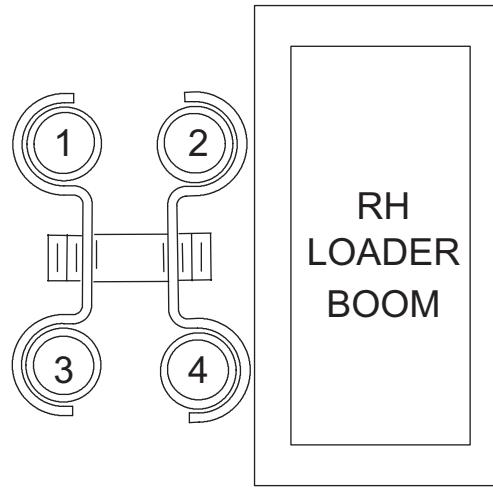
1. Attach 90 degree elbow (2) and male quick coupler (3) (not supplied in kit) to three loader supply hoses (1).
2. Attach 90 degree elbow (2), swivel adapter (4), and male quick coupler (3) to fourth loader supply hose.

1. 40488 46" Hose, 3/8 x 8JICM x 8JICF
2. 313030 90° Elbow, 8JICM x 3/8 NPTM
3. ----- 3/8 Male quick coupler
4. 315039 Swivel pipe adapter, male to female

Connect Hoses to Loader

1. Connect the three loader supply hoses with 90 degree elbows to loader steel feedlines 2, 3, & 4.
2. Connect loader supply hose with 90 degree elbow and swivel adapter to loader steel feedline 1.
3. See Figure 10 for locations.

1. - Bucket Cylinder, Rod End (Rollback) - Blue
2. - Bucket Cylinder, Base End (Dump) - Red
3. - Boom Cylinder, Rod End (Down) - Orange
4. - Boom Cylinder, Base End (Up) - White



LOADER FEEDLINES

Figure 10 Loader Feedline Identification

Connect Hoses to Tractor

NOTE: Route hydraulic hoses along loader mount to tractor hydraulic couplers located in front of the brake pedals. Be sure to avoid contact with brake pedals and other moveable tractor components.

Hoses must be routed so that they are not pinched, bent sharply or chafed during operation. Hoses must not interfere with any tractor control operation or contact any moving parts.

1. Connect hydraulic hoses to tractor hydraulic couplers as shown in Figure 11.
2. Attach color coded plastic bands around fittings to identify quick coupler connections.

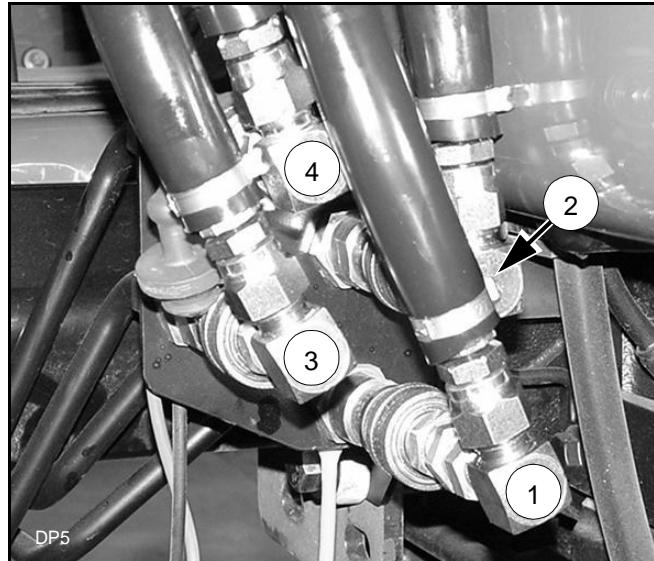


Figure 11 Hydraulic Hose Connection

1 #59732 Hose Kit Cont'd

Verification of Control Movements

1. Comply with all Safety Rules and start the tractor.
2. Mount loader to tractor by activating bucket cylinders to raise or lower the loader side rails into the front mount. Slowly advance tractor forward, activating appropriate cylinders to engage loader completely into mounts.
3. Insert mounting pins and secure with klik pins.
4. Check that all hydraulic control lever positions operate the loader movements correctly as shown in Figure 12.
5. If loader movements do not respond correctly, shut off tractor, relieve pressure, and reconnect properly. Loader control movements must be correct before proceeding.
6. Once all loader functions are correct, start the tractor and operate the loader to check for leaks. Purge any remaining air from the hydraulic system.
7. When hose routings and correct loader operations are verified, identify each circuit by placing a matching colored band around the male and female quick-disconnect coupler set. The colored bands will make re-installation easier when the loader is removed from the tractor.
8. Be sure that adequate slack is left in the hoses so they can move as the loader moves through its full range of motion.
9. Attach plastic tie straps every 20" around the hoses to keep them tightly bound and away from contact with the ground or other moving parts on tractor.
10. Before operating the loader, make sure that the Pre-Delivery and Pre-Operation Check list from the operator section in the Loader Operator's Manual have been completed.

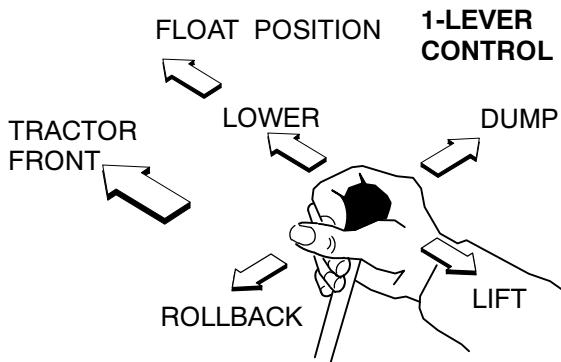


Figure 12 Single Lever Control Operation

- Handle Forward - Boom down
- Handle forward to limit - Float position
- Handle back - Boom up
- Handle to right - Dump bucket or attachment
- Handle to left - Rollback bucket or attachment

111753 LOADER MOUNTING KIT

Loaders

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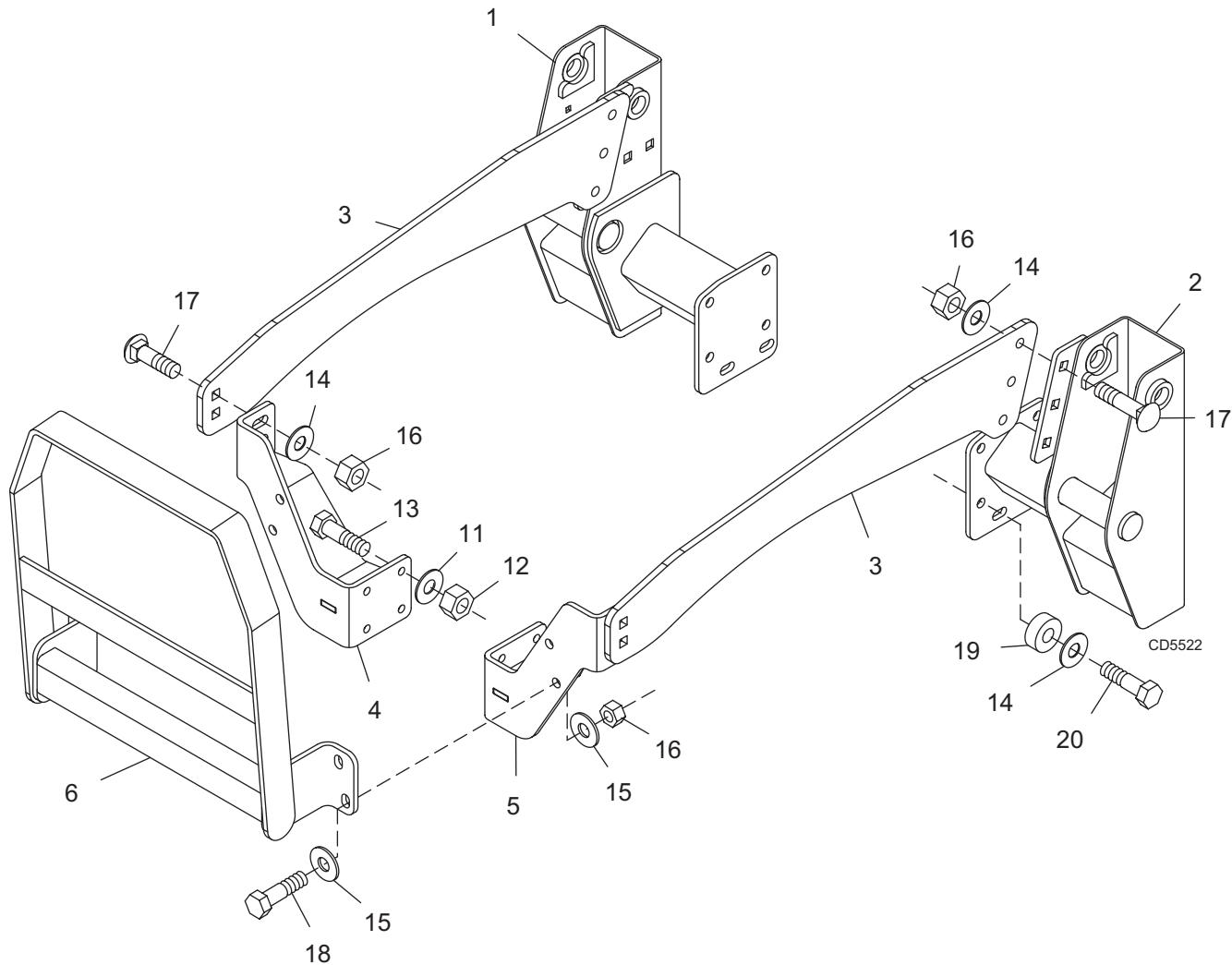
mounting to

**John Deere Tractor Models:
4500, 4600, 4700**

#111753 LOADER MOUNT KIT 16

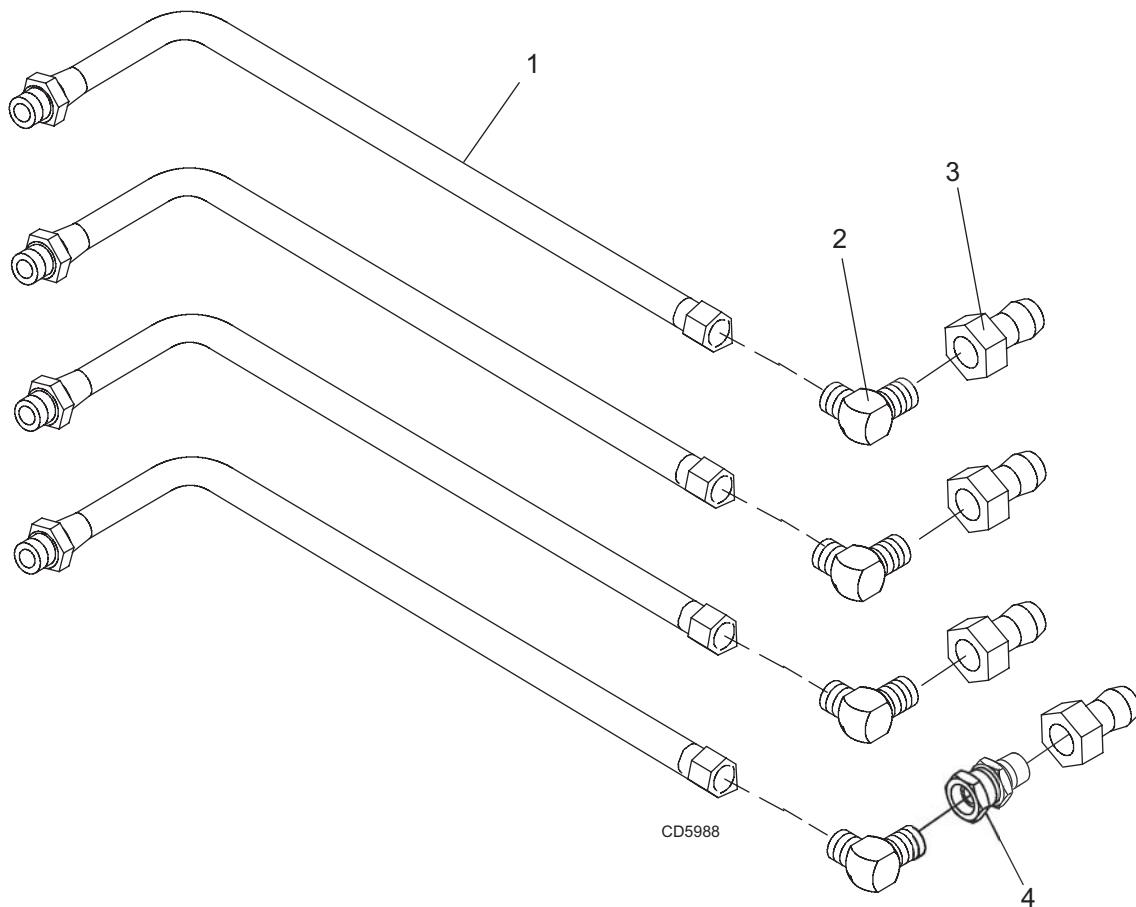
#59732 HOSE KIT 17

#111753 LOADER MOUNTING KIT



REF	PART	QTY	DESCRIPTION	REF	PART	QTY	DESCRIPTION
1	59695	1	Right rear mount	13	24576	8	1/2 NC x 1-3/4 Cap screw GR5
2	59696	1	Left rear mount	14	58337	18	5/8 Hardened flat washer, extra thick
3	58336	2	Front side rail	15	57817	8	5/8 Hardened flat washer
4	59697	1	Right front mount	16	230	14	5/8 NC Hex nut
5	59698	1	Left front mount	17	2855	10	5/8 NC x 2 Carriage bolt
6	59738	1	Grill guard kit (includes items 15, 16, & 17)	18	4548	4	5/8 NC x 1-3/4 Cap screw GR5
11	57816	8	1/2 Hardened SAE flat washer	19	58335	8	.656 x 1.5 x .5 Washer
12	1093	8	1/2 NC Hex nut	20	58334	8	M16 x 2.0P x 60mm, CL 10.9

59732 HOSE KIT



REF	PART	QTY	DESCRIPTION
1	40488	4	3/8 x 46" hose with protective sleeves clamped at both ends 3/4JICM x 3/4JIC
2	313030	4	90° Elbow, 3/4JICM x 3/8NPTM
3		4	3/8 male hydraulic coupler x 3/8 NPTF (not included in kit, obtain from John Deere dealer)
4	315039	1	Swivel pipe adapter, male to female
N/S	88 AR	1	Plastic Tie (TY-RAP)
N/S	395061	2	Plastic spiral band, red
N/S	395062	2	Plastic spiral band, blue
N/S	395063	2	Plastic spiral band, orange
N/S	54124	2	Plastic spiral band, white

BOLT TORQUE CHART

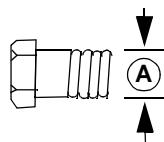
Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure fastener threads are clean and you start thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 & J1701M JUL96.



SAE SERIES TORQUE CHART



SAE Grade 2
(No Dashes)

SAE Bolt Head
Identification

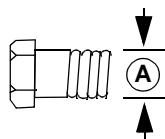


SAE Grade 5
(3 Radial Dashes)



SAE Grade 8
(6 Radial Dashes)

A Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		Lbs.-Ft.	N-m	Lbs.-Ft.	N-m	Lbs.-Ft.	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-15/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383



METRIC SERIES TORQUE CHART



Metric
Grade 8.8

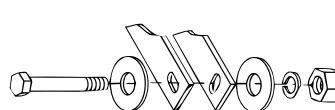
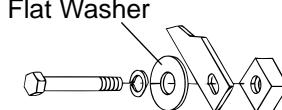
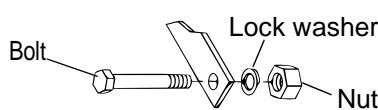
Metric Bolt Head
Identification



10.9
Metric
Grade 10.9

A Diameter & Thread Pitch (Millimeters)	Wrench Size	COARSE THREAD				FINE THREAD				A Diameter & Thread Pitch (Millimeters)	
		MARKING ON HEAD				MARKING ON HEAD					
		Metric 8.8		Metric 10.9		Metric 8.8		Metric 10.9			
		N-m	Lbs.-Ft.	N-m	Lbs.-Ft.	N-m	Lbs.-Ft.	N-m	Lbs.-Ft.		
6 x 1.0	10 mm	8	6	11	8	8	6	11	8	6 x 1.0	
8 x 1.25	13 mm	20	15	27	20	21	16	29	22	8 x 1.0	
10 x 1.5	16 mm	39	29	54	40	41	30	57	42	10 x 1.25	
12 x 1.75	18 mm	68	50	94	70	75	55	103	76	12 x 1.25	
14 x 2.0	21 mm	109	80	151	111	118	87	163	120	14 x 1.5	
16 x 2.0	24 mm	169	125	234	173	181	133	250	184	16 x 1.5	
18 x 2.5	27 mm	234	172	323	239	263	194	363	268	18 x 1.5	
20 x 2.5	30 mm	330	244	457	337	367	270	507	374	20 x 1.5	
22 x 2.5	34 mm	451	332	623	460	495	365	684	505	22 x 1.5	
24 x 3.0	36 mm	571	421	790	583	623	459	861	635	24 x 2.0	
30 x 3.0	46 mm	1175	867	1626	1199	1258	928	1740	1283	30 x 2.0	

Typical Washer Installations



8/9/00

BOLT SIZE CHART

NOTE: Chart shows bolt thread sizes and corresponding head (wrench) sizes for standard SAE and metric bolts.

SAE Bolt Thread Sizes

5/16

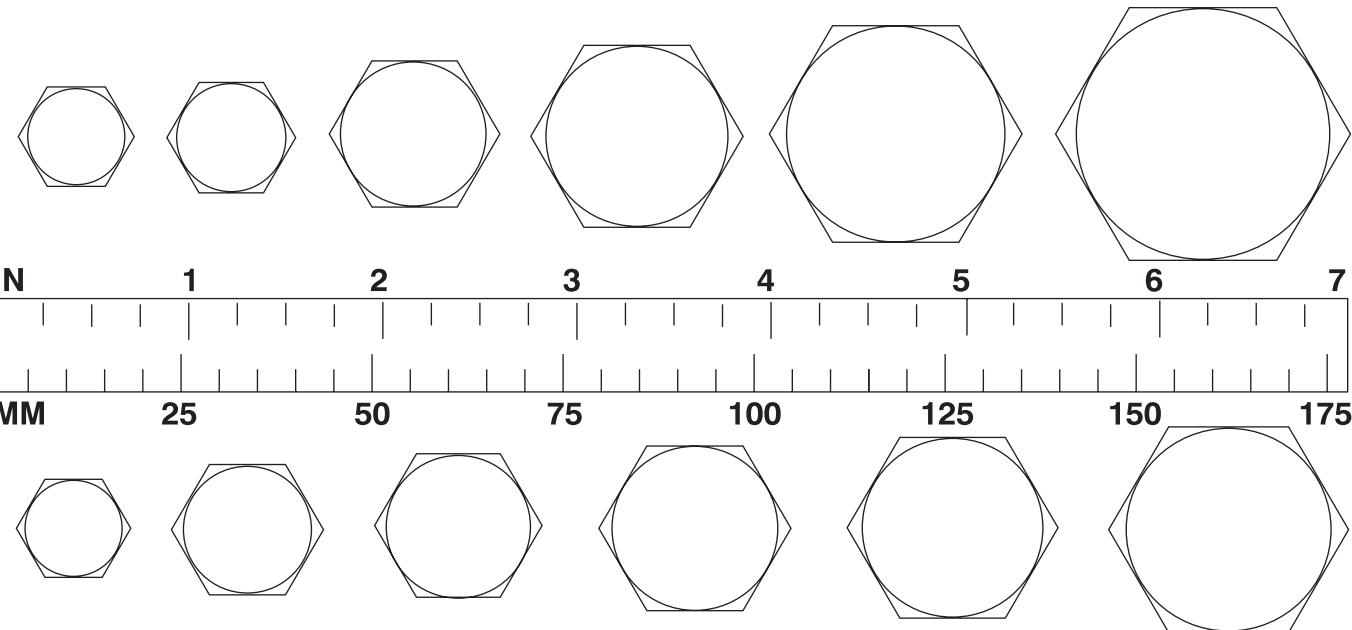
3/8

1/2

5/8

3/4

7/8



Metric Bolt Thread Sizes

8MM

10MM

12MM

14MM

16MM

18MM

ABBREVIATIONS

AG	Agriculture	NC	National Coarse
ATF	Automatic Transmission Fluid	NF	National Fine
BSPP	British Standard Pipe Parallel	NPSM	National Pipe Straight Mechanical
BSPTM	British Standard Pipe Tapered Male	NPT	National Pipe Tapered
CV	Constant Velocity	NPT SWF	National Pipe Tapered Swivel Female
CCW	Counter-Clockwise	ORBM	O-Ring Boss - Male
CW	Clockwise	P	Pitch
F	Female	PBY	Power Beyond
GA	Gauge	psi	Pounds per Square Inch
GR (5, etc.)	Grade (5, etc.)	PTO	Power Take Off
HHCS	Hex Head Cap Screw	QD	Quick Disconnect
HT	Heat Treated	RH	Right Hand
JIC	Joint Industry Council 37° Degree Flare	ROPS	Roll Over Protective Structure
LH	Left Hand	RPM	Revolutions Per Minute
LT	Left	RT	Right
m	Meter	SAE	Society of Automotive Engineers
mm	Millimeter	UNC	Unified Coarse
M	Male	UNF	Unified Fine
MPa	Mega Pascal	UNS	Unified Special
N	Newton		

WARRANTY

(Replacement Parts For All Models Except Mow'n Machines)

WEC Company, d/b/a Woods Equipment Company ("WOODS"), warrants this product to be free from defect in material and workmanship for a period of ninety (90) days from the date of delivery of the product to the original purchaser.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not cover normal wear or tear, or normal maintenance items.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THIS WARRANTY. WOODS MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND WOODS SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY AND/OR ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

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This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, service person, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

Answers to any questions regarding warranty service and locations may be obtained by contacting:

**Woods Equipment
Company**

2606 Illinois Route 2 South
Post Office Box 1000
Oregon, Illinois 61061

815-732-2141 tel
815-732-7580 fax

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WARRANTY

(All Models Except Mow'n Machines)

Please Enter Information Below and Save For Future Reference.

Date Purchased: _____

From (Dealer): _____

Model Number: _____

Serial Number: _____

WEC Company, d/b/a Woods Equipment Company ("WOODS"), warrants this product to be free from defect in material and workmanship. Except as otherwise set forth below, the duration of this Warranty shall be for TWELVE (12) MONTHS COMMENCING ON THE DATE OF DELIVERY OF THE PRODUCT TO THE ORIGINAL PURCHASER.

The warranty period for certain gearboxes are listed below:

Model No.	Part Warranted	Duration
1160, 1190, BB600, BB720, BB840, BB6000, BB7200, BB8400	Gearbox components	5 years from the date of delivery.
1130, 3180, 3240, BB48, BB60, BB72, BB84	Gearbox components	3 years from the date of delivery.
XT148, XT160, XT172, XT184	Rotary cutter gearbox	90 days from the date of delivery if used in rental or commercial applications.

Under no circumstances will this Warranty apply in the event that the product, in the good faith opinion of WOODS, has been subjected to improper operation, improper maintenance, misuse, or an accident. This Warranty does not apply in the event that the product has been materially modified or repaired by someone other than WOODS, a WOODS authorized dealer or distributor, and/or a WOODS authorized service center. This Warranty does not cover normal wear or tear, or normal maintenance items. This Warranty also does not cover repairs made with parts other than those obtainable through WOODS.

This Warranty is extended solely to the original purchaser of the product. Should the original purchaser sell or otherwise transfer this product to a third party, this Warranty does not transfer to the third party purchaser in any way. There are no third party beneficiaries of this Warranty.

WOODS makes no warranty, express or implied, with respect to engines, batteries, tires or other parts or accessories not manufactured by WOODS. Warranties for these items, if any, are provided separately by their respective manufacturers.

WOODS' obligation under this Warranty is limited to, at WOODS' option, the repair or replacement, free of charge, of the product if WOODS, in its sole discretion, deems it to be defective or in noncompliance with this Warranty. **The product must be returned to WOODS with proof of purchase within thirty (30) days after such defect or noncompliance is discovered or should have been discovered, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.** WOODS shall complete such repair or replacement within a reasonable time after WOODS receives the product. THERE ARE NO OTHER REMEDIES UNDER THIS WARRANTY. THE REMEDY OF REPAIR OR REPLACEMENT IS THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY.

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This Warranty is subject to any existing conditions of supply which may directly affect WOODS' ability to obtain materials or manufacture replacement parts.

No agent, representative, dealer, distributor, serviceperson, salesperson, or employee of any company, including without limitation, WOODS, its authorized dealers, distributors, and service centers, is authorized to alter, modify, or enlarge this Warranty.

This Warranty is effective only if the warranty registration card is returned within ten (10) days.

Answers to any questions regarding warranty service and locations may be obtained by contacting:

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2606 Illinois Route 2 South
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Oregon, Illinois 61061

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